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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,674	01/14/2004	Ridha M. Hamza	H26483USC1 (1100.1184102)	8051
128	7590	09/08/2006	EXAMINER	
HONEYWELL INTERNATIONAL INC. 101 COLUMBIA ROAD P O BOX 2245 MORRISTOWN, NJ 07962-2245			COUSO, YON JUNG	
			ART UNIT	PAPER NUMBER
			2624	

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/757,674

Applicant(s)

HAMZA ET AL.

Examiner

Yon Couso

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-26, 28-40 is/are rejected.
- 7) ☒ Claim(s) 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. Applicant's arguments filed July 11, 2006 have been fully considered but they are not persuasive.

a. The 35 USC 112, second paragraph has been withdrawn in response to the amendment.

b. The originally filed specification fails to disclose 'intentionally patterned background' and 'the light and dark areas have an intended interrelationship'.

c. The applicants argue that the Ng reference does not suggest capturing a reference image of the area without the object present, wherein the area includes an intentionally patterned background with both light areas and dark areas, wherein the light areas and dark areas have an intended interrelationship. The examiner notes that Tsikos teaches intentionally patterned background, wherein the light areas and dark areas have an intended interrelationship (figure 15). It would have been obvious to one of ordinary skill in the art to incorporate background taught in Tsikos, which is intentionally patterned background, wherein the light areas and dark areas have an intended interrelationship into Ng's object detection system that distinguishes live object from the captured reference image because Ng's system would work with any type of background image including intentionally patterned background, wherein the light areas and dark areas have an intended interrelationship.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The originally filed specification fails to disclose 'intentionally patterned background' and 'the light and dark areas have an intended interrelationship'.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 16, 17, 20, 21, 23-26, 28-33, 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ng (US Patent No. 5,731,832) in view of Tsikos et al (US Patent No. 5,065,237).

As per claim 16, Ng teaches a method for detecting an object in an area, comprising: capturing a reference image of the area without the object present, wherein the area includes a patterned background with both light areas and dark areas (figure 6a and column 9, lines 27-28 and 37-39); capturing a live image (figure 6b and column 9, line 28); and determining if the object is present by comparing the reference image and the live image (figure 6c and column 9, lines 42-48). As to intentionally patterned background, wherein the light areas and dark areas have an intended interrelationship, while it is obvious Ng would work with any type of background, whether it is patterned, intentionally patterned or not patterned at all, Tsikos teaches intentionally patterned background, wherein the light areas and dark areas have an intended interrelationship (figure 2). It would have been obvious to one of ordinary skill in the art to incorporate background taught in Tsikos, which is intentionally patterned background, wherein the light areas and dark areas have an intended interrelationship into Ng's object detection system that distinguishes live object from the captured reference image because Ng's system would work with any type of background image including intentionally patterned background, wherein the light areas and dark areas have an intended interrelationship.

As per claim 17, Ng teaches that the area is at least part of a larger area (figure 6a).

As per claim 20, Ng teaches that the larger area corresponds to an area to be monitored (figure 6a).

As per claim 21, Ng teaches that the area corresponds to a monitored area (figure 6a).

As to claim 23, Tsikos teaches that the patterned background includes an approximately equal amount of light areas and dark areas (figure 2).

As to claim 24, Tsikos teaches that the patterned background includes a member of parallel extending light areas and dark areas (figure 2).

As to claim 25, the patterned background includes a checkerboard pattern of light areas and dark areas, Tsikos already teaches patterned background. It would have been obvious to one of ordinary skill in the art to recognize at the time the invention was made, that the patterned background in the Tsikos could be stripes of lines (explicitly shown in figure 2) as well as checkered pattern for both stripes and the checkered are the well-known patterns known in the art.

As to claim 26, Tsikos teaches that the light areas and/or dark areas each have a size that is smaller than the object (figure 2).

As to claim 28, Ng teaches that the determining step comprises the steps of: determining a difference image by determining a difference in intensity between corresponding locations of the reference image and the live image (figure 6c and column 9, lines 42-48); and determining if the intensity of at least part of the difference image exceeds a threshold value (column 9, lines 45-48).

As per claim 29, Ng teaches a method for detecting an object in an area, comprising: providing a patterned background in the area, wherein the patterned background includes both light areas and dark areas (figure 6a and column 9, lines 27-28 and 37-39); capturing a reference image of the area without the object present (figure 6b and column 9, line 28); capturing a live image of the area; and determining if

the object is present in the area by comparing the reference image and the live image (figure 6c and column 9, lines 42-48). As to the patterned background includes both light areas and dark areas with an intended interrelationship, see arguments advanced in claim 1.

As to claim 30, Tsikos teaches that the area corresponds to an area of a floor, and the patterned background is fixed to the area of the floor (figures 1 and 2).

As to claim 31, Tsikos teaches that the patterned background is painted on the area of the floor (figures 1 and 2).

As per claim 32, Ng teaches an object detection system, comprising: a patterned background fixed to an area, wherein the patterned background includes both light areas and dark areas (figure 6a and column 9, lines 27-28 and 37-39); an image capture device for capturing a reference image of the area without the object present (figure 6a and column 9, lines 27-28 and 37-39), and a live image of the area (figure 6b and column 9, line 28); and a processing element for determining if the object is present in the area by comparing the reference image and the live image (figure 6c and column 9, lines 42-48). As to the patterned background includes both light areas and dark areas with an intended interrelationship, see arguments advanced in claim 1.

As to claim 33, Ng teaches that the area is at least part of a larger area (figure 6a).

As to claim 35, Ng teaches that the larger area corresponds to an area to be monitored (figure 6a).

As to claim 36, Ng teaches that the area corresponds to a monitored area (figure 6a).

As to claim 37, Tsikos teaches that the patterned background includes an approximately equal amount of light areas and dark areas (figure 2).

As to claim 38, Tsikos teaches the patterned background includes a number of parallel extending light areas and dark areas (figure 2).

As to claim 39, the patterned background includes a checkerboard pattern of light areas and dark areas, Tsikos already teaches patterned background. It would have been obvious to one of ordinary skill in the art to recognize at the time the invention was made, that the patterned background in the Tsikos could be stripes of lines (explicitly shown in figure 2) as well as checkered pattern for both stripes and the checkered are the well-known patterns known in the art.

As to claim 40, Tsikos teaches that the light areas and/or dark areas each have a size that is smaller than the object (figure 2).

3. Claims 18, 19, 22, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ng (US Patent No. 5,731,832) in view of Tsikos et al (US Patent No. 5,065,237) as applied to claims 16, 17, 20, 21, 23-26, 28-33, 35-40 above, and further in view of Matsugu (US 20040066970).

As to claim 18, Ng in view of Tsikos does not teach details on at least one other area that at least partially overlaps the area. However. Matsugu discloses detecting target objects in a plurality of specific regions in an image by setting a plurality of masks in the difference data between the background image and the image to be processed

(paragraph 0014). Moreover, Matsugu discloses at least one other area that at least partially overlaps the area (paragraph 0424). It would have been obvious to one of ordinary skill in the art to incorporate at least one other areas partially overlapping the area into Ng in view of Tsikos because it would increase the performance of detecting an object in an area.

As to claims 19 and 34, wherein the larger area at least partially encircles an area to be monitored, it would have been obvious to one of ordinary skills in the art to. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to arrange the area to be at least partially encircling an area to be monitored. Applicant has not disclosed that the larger area at least partially encircles an area to be monitored provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the patterned background taught in Tsikos. Therefore, it would have been obvious to combine to one of ordinary skill in this art to modify area to be monitored with to obtain the invention as specified in claims 19 and 34.

As to claim 22, Matsugu teaches that the area is a mask window (paragraph 0014).

4. Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

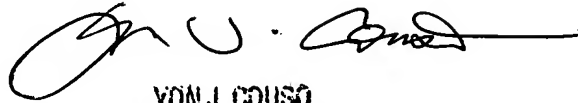
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yon Couso whose telephone number is (571) 272-7448. The examiner can normally be reached on Monday through Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu, can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Yon J. Couso', with a long horizontal stroke extending to the right.

YON J. COUSO
PRIMARY EXAMINER

Yjc
September 5, 2006